

CLAIMS:

- 5 1. A vehicle with at least one steerable wheelset adapted to run on a guideway having two primary running faces laterally offset about a guideway centreline, the wheelset comprising a pair of wheels, each wheel located on opposite sides of the wheelset adapted to engage with a respective one of the two primary running faces, the vehicle further comprising sensing means for
10 sensing lateral displacement of the wheelset with respect to a longitudinally disposed reference path, the sensing means producing a signal for a control system operably connected to an actuating means to steer the wheels in response to the sensed lateral displacement, **characterised in that** the axes of rotation of the wheels and the primary running faces are inclined
15 downwardly towards the guideway centreline.
2. A vehicle as claimed in claim 1, wherein each wheel exerts an engagement force with its respective primary running face, the engagement force on each wheel comprising a perpendicular component to its respective primary running face and a parallel component to its respective primary running face
20 substantially perpendicular to the guideway centreline, wherein horizontal forces acting on the wheelset substantially transverse to the guideway centreline are substantially resisted by the sum of the horizontal vectors of the perpendicular components.
- 25 3. A vehicle as claimed in claim 1, wherein each wheel exerts an engagement force with its respective primary running face at a contact zone, the engagement force on each wheel comprising a first component perpendicular to its respective primary running face and a second component parallel to its
30 respective primary running face substantially transverse to the guideway centreline, wherein a first plane perpendicular to the axis of rotation of one of the wheels passes through the centroid of its respective contact zone, and a

second plane perpendicular to the axis of rotation of the other wheel passes through the centroid of its respective contact zone, the first and second planes intersecting along an intersection line disposed above and between the wheels, wherein horizontal forces acting on the wheelset substantially transverse to the guideway centreline at or near the intersection line are substantially resisted by perpendicular components of the engagement forces acting at the primary running faces, such that substantially all of the parallel components of the engagement forces acting at the primary running faces are available to steer the wheelset.

4. A vehicle as claimed in claim 3, wherein the intersection line passes through the centre of gravity of vehicle.
5. A vehicle as claimed in claims 1 to 3, wherein the sensing means comprises at least one sensor located either ahead or behind the wheelset, or laterally offset with the wheelset.
6. A vehicle as claimed in claims 1 to 3, wherein the sensing means comprises at least two sensors, one of which is located ahead of the wheelset and the other is located behind the wheelset.
7. A vehicle as claimed in claims 1 to 3, wherein the longitudinally disposed reference path is substantially contiguous with the guideway centreline.
8. A vehicle as claimed in claims 1 to 3, wherein the longitudinally disposed reference path is substantially parallel to, but laterally offset from the guideway centreline.

9. A vehicle as claimed in claims 1 to 3, wherein a secondary running face lies immediately adjacent to, and substantially parallel to, at least one of the primary running faces.

10. A vehicle as claimed in claim 9, wherein the longitudinally disposed reference path is contiguous with the second running face.

11. A vehicle as claimed in claims 1 to 3, wherein a secondary running face lies immediately adjacent to and substantially parallel to each primary running face and the longitudinally disposed reference path is contiguous with the lateral centreline between the respective two secondary running faces.

12. A vehicle as claimed in claims 9 to 11, wherein at least one of the wheels also incorporates a flange, adapted to engage with the secondary running face.

13. A vehicle as claimed in claim 1, wherein the control system calculates a virtual longitudinally disposed reference path which is not necessarily parallel or contiguous with the guideway centreline.

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